StorCase® Technology

Data Express®
Ultra320 DE200

Removable
SCSI Wide Ultra320
Drive Enclosure

User's Guide

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Part No. P89-0000-0311 A01   August 2006

Kingston Technology Affiliate

Safest Place for Your Data ®

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Fountain Valley, CA 92708-9885
Phone (714) 438-1850   Fax (714) 438-1847

LIMITED WARRANTY

STORCASE TECHNOLOGY, Incorporated ("StorCase") warrants that its products will be free from defects in material and workmanship, subject to the conditions and limitations set forth below. StorCase will, at its option, either repair or replace any part of its product that proves defective by reason of improper workmanship or materials. Repair parts or replacement products will be provided by StorCase on an exchange basis, and will be either new or reconditioned to be functionally equivalent to new.

This warranty does not cover any product damage that results from accident, abuse, misuse, natural or personal disaster, external power surge or failure, or any unauthorized disassembly, repair or modification. StorCase will not be responsible for any software, firmware or other customer data stored within, or interfacing with a StorCase product.

Duration of Warranty

Twelve-Year Warranty: The following StorCase products are covered by this warranty for a period of twelve (12) years from the original date of purchase from StorCase or its authorized resellers: all Data Express® Profile (model types "DX") removable device enclosures.

Seven-Year Warranty: The following StorCase products are covered by this warranty for a period of seven (7) years from the original date of purchase from StorCase or its authorized resellers: all Data Express Classic (model types "DE") removable device enclosures and all Data Silo®, Data Stacker® and InfoStation® external expansion chassis, except for those components integrated into or purchased separately for use with these products which are identified and covered by the three-year or hard drive warranties described below. All StorCase interface cables and other accessories specifically intended for use with the StorCase products identified above are also covered by this (7) year warranty.

Three-Year Warranty: The following components integrated into or purchased separately for use with StorCase Data Express, Data Silo, Data Stacker and/or InfoStation products are subject to warranty for a period of three (3) years from the original date of purchase from StorCase or its authorized resellers: all RAID controllers, power supplies, fans and blowers.

Two-Year Warranty: The following StorCase products are covered by this warranty for a period of two (2) years from the original date of purchase from StorCase or its authorized resellers: all Rhino®JR fixed external expansion chassis (model types "FJR") and all RhinoJR removable device enclosures (model types "RJR").

One-Year Warranty: All StorCase products identified as Reconditioned or "Special Inventory" are covered by this warranty for a period of one (1) year from the original date of purchase from StorCase or its authorized resellers. Reconditioned products may only be exchanged for reconditioned products.

Hard Disk Drive Warranty: All hard disk drives purchased from StorCase or through its authorized resellers, whether purchased separately or integrated into StorCase products, are subject to the warranty terms and conditions provided by the drive manufacturer.

Third Party Software Warranty: All third party software purchased from StorCase for use with and/or as part of StorCase products is subject to the warranty terms and conditions provided by the software manufacturer.

Warranty Claim Requirements

To obtain warranty service, the defective product must be returned to your local authorized StorCase dealer or distributor, or, with prior StorCase approval, to the StorCase factory service center.

For defective products returned directly to StorCase, a Return Material Authorization ("RMA") number must be obtained by calling StorCase Customer Service at (714) 445-3455. The RMA number must be prominently displayed on the outside of the return package. Shipments must be freight-prepaid and insured, and must include the product serial number, a detailed description of the problem experienced, and proof of the original retail purchase date. Products must be properly packaged to prevent damage in transit. Damage resulting from improper packaging will not be covered by this warranty. The StorCase factory service center is located at 17650 Newhope Street, Receiving Dock, Gate #4, Fountain Valley, CA 92780, U.S.A.

Free Technical Support

StorCase provides free technical support. If you experience any difficulty during the installation or subsequent use of a StorCase product, please contact StorCase's Technical Support Department prior to servicing your system. This warranty covers only repair or replacement of defective StorCase products, as described above. StorCase is not liable for, and does not cover under warranty, any costs associated with servicing and/or installation of StorCase products.

StorCase Technical Support can be reached in the U.S. at (714) 438-1858 or toll-free at (888) 435-5460 (U.S. and Canada only). StorCase European Technical Support can be reached in the U.K. at +44 (0) 1932 738900.

Disclaimers

The foregoing is the complete warranty for the products identified above and supersedes all other warranties and representations, whether oral or written. StorCase expressly disclaims all warranties for the identified products, which are not stated herein, including, to the extent permitted by applicable law, any implied warranty of merchantability or fitness for a particular purpose. In no event will StorCase be liable to the purchaser, or to any user of a StorCase product, for any damages, expenses, lost revenues, lost savings, lost profits, or any other incidental or consequential damages arising from the purchase, use or inability to use a StorCase product, even if StorCase has been advised of the possibility of such damages.

Kingston Technology Affiliate

StorCase®
T E C H N O L O G Y

Safest Place for Your Data ®

Declaration of Conformity

Company Name:	StorCase Technology, Inc.
Corporate Office Address:	17600 Newhope Street Fountain Valley, CA 92708
Manufacturing Address:	17600 Newhope Street Fountain Valley, CA 92708
Product Name:	Data Express Ultra320 DE200
Model Number:	S20A177, S20A178

Conforms to the following standards:

EMC Directives:
(89/336/EEC)

ITE Emission
- EN 55022: 1998
- EN 61000-3-2 Harmonic Current
- EN 61000-3-3 Voltage Fluctuations and Flicker
EN 55024: 1998 ITE Immunity

- EN 61000-4-2	- EN 61000-4-6
- EN 61000-4-3	- EN 61000-4-8
- EN 61000-4-4	- EN 61000-4-11
- EN 61000-4-5	

Safety Standards:
CSA (NRTL/C)

CAN/CSA-C22.2 No. 950-95
UL 1950

TUV

EN 60950: 2000

FCC Part 15, Class A

EMI Standards:

AS/NZS 3548 Information Technology Equipment

EMC Standards:

2006

Year of Manufacture:

Signature:_____
Full name: Dieter Paul
Position: President

Table of Contents

List of Figures

List of Tables

NOTICE: This User's Guide is subject to periodic updates without notice. While reasonable efforts have been made to ensure the accuracy of this document, Stor-Case Technology, Inc. assumes no liability resulting from errors or omissions in this publication, or from the use of the information contained herein.

Please check the StorCase web site at http://www.storcase.com or contact your StorCase representative for the latest revision of this document.

INTRODUCTION

Packaging Information

The StorCase Technology Data Express® system is shipped in a container designed to provide protection and prevent damage during shipment. The Data Express unit was carefully inspected before and during the packing procedure at the factory. Bent or broken connectors, or evidence of other damage to the Data Express should be reported to the shipper immediately. Refer to Figure 1 for the package contents.

If the wrong Data Express model has been received, please call your reseller or StorCase at (800) 435-0642 to arrange for a Return Material Authorization (RMA). StorCase cannot accept returns which do not display an RMA number on the outside of the package. Return the unit with all the original packing materials.

Before removing any component from its packaging, discharge any static electricity by touching a properly grounded metal object.

Serial Numbers

Both the Data Express DE200 receiving frame and carrier are labeled with serial numbers. These numbers must be reported to the StorCase Customer Service Representative in order to receive a Return Material Authorization (RMA) for warranty claims. Locate the serial number labels and record the numbers in the spaces provided below.

Receiving Frame:

Device Carrier:

Package Contents

NOTE: Package contents may vary, depending on model.

The DE200 package contents include the following items. If any item is missing or damaged, contact your StorCase dealer for a replacement.

1.   Alignment Tool
2.   Drive Lock Keys
3.   Receiving Frame
4.   Drive Carrier
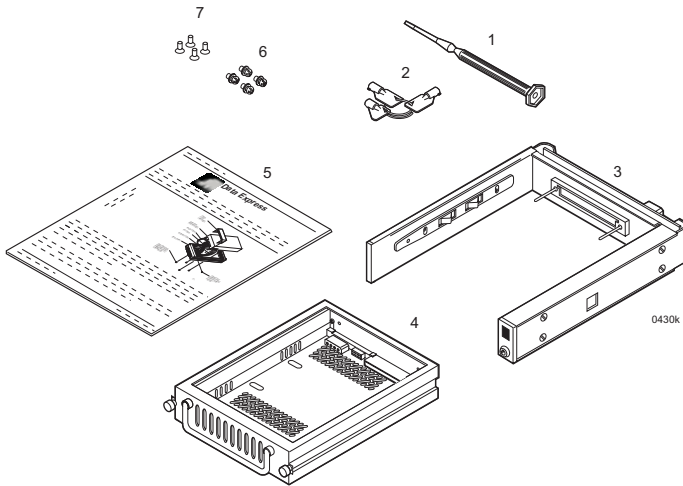
5.   Insert Sheet
6.   #6-32 Phillips Machine Hd.
      Mounting Screws
7.   #6-32 Phillips F.H.
      Mounting Screws

Figure 1: Package Contents

General Description

NOTES: For SCSI Ultra320 operation, the Ultra320 DE200 requires Ultra320 drives, Ultra320 HBA, and Ultra320-compliant cabling (internal and external).

Ultra320 DE200 can support Ultra320 implementations with a maximum of fifteen (15) Ultra320 drives (Ultra320 repeater may be required).

Ultra320 DE200 receiving frames are indicated by their BLUE LED, while the Ultra320 DE200 carriers are indicated by the Ultra320 logo.

The StorCase Technology **Data Express® Ultra320 DE200** is composed of a receiving frame which supports SCSI Ultra320 interfaces and fits within a 5.25" half-height peripheral slot (Figure 2). This 16-bit I/O can support up to 320MByte/sec transfer rates. The receiving frame contains one (1) removable drive carrier designed to provide durable and reliable mounting for one (1) 3.5" form factor SCSI Wide, Wide Ultra, Wide Ultra2, Wide Ultra160, or Wide Ultra320 drive.

The Ultra320 DE200 allows a drive to be removed and transported to another Ultra320 DE200-equipped computer or expansion chassis, and also provides the ability to secure sensitive data by removing and storing the drive safely for future use. Up to fifteen (15) Ultra320 DE200 units can be attached to one host adapter.

The DE200 was specifically designed for use in high shock and vibration environments (e.g. aircraft) which may also have non-PVC material requirements. The DE200 is equipped with manual lockdown thumbscrews to secure the drive carrier within the receiving frame.
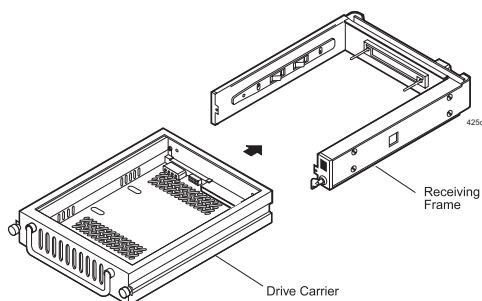

Figure 2:   Ultra320 DE200 Receiving Frame and Carrier

This User's Guide describes the steps required to install the StorCase Data Express Ultra320 DE200 removable enclosure inside of a computer peripheral bay or external chassis. This guide supplements documentation provided with the host computer system, operating system, and the drive to be installed within the carrier.

Receiving Frame Front Panel

(Figure 3)

- **Key Lock/Drive Power Switch** - This key switch assures proper seating of the drive carrier within the receiving frame, turns power to the drive carrier ON and OFF, and prevents unauthorized removal or installation of the carrier. For the computer to access data on the disk drive, the key must be turned counterclockwise to the locked position.

  The key can be permanently attached to the locking mechanism as shown in Appendix C.

- **Unit ID Number Indicator** - (Figure 4) This BLUE LED displays the physical address of the Ultra320 DE200 drive carrier if the carrier is *Installed and Locked* in the receiving frame *or* if the carrier is *Removed* from the receiving frame. If the carrier is *Installed but Not Locked* in the receiving frame, a "u" will be displayed to indicate an unlocked condition. The unit ID number is selected by means of the unit ID select switch inside the receiving frame using a special alignment tool supplied with the DE200.

- **Activity Indicator-** A small BLUE dot next to the Unit ID Number which illuminates to show when the host computer is accessing the data on the DE200 carrier. This dot will flash during communication with the host computer.
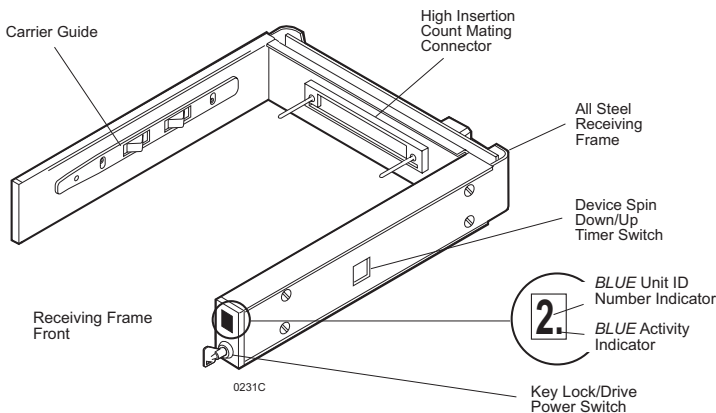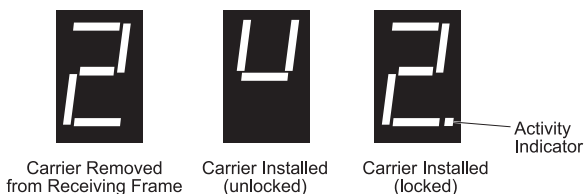

Figure 3: Receiving Frame Front Panel

Carrier Removed   Carrier Installed   Carrier Installed
from Receiving Frame   (unlocked)   (locked)

The number "2" shown above is for illustration purposes only. It can be any valid
unit ID number. The letter "u" (above middle) will appear as illustrated.

0064

Figure 4: Receiving Frame Unit ID Number and Activity Display

Receiving Frame Rear Panel
(Figure 5)

- **I/O Connector (J2) :** The input/output connector provides a standard interface for 16-bit wide SCSI signals.

- **DC Power Connector (P1):** The Data Express uses a standard 4-pin DC power connector to accept DC power.

- **Option Pin Connector (W1):**

   Remote Unit ID Selection: Pins 1-8 of this connector are provided for remote unit SCSI ID selection through the computer system. Remote ID selection requires that the unit ID switch located on the inside of the receiving frame be set to "0". (Onboard ID selection is set with a switch located on the inside of the receiving frame as shown in Figure 9). See Table 1 for pin assignments.

   Factory-Installed Jumpers: There are three (3) jumpers factory-installed on W1. These jumpers are located on Pins 9 & 10, 19 & 20, and Pins 21 & 22.

   NOTE: Do not remove these jumpers!

Rear Panel (cont'd)

- **Enable Termination Power (J4):** This jumper is installed at the factory and enables termination power to/from the SCSI bus.

  NOTE: Do not remove this jumper!

- **Factory-Installed Jumpers (J3):** There are two (2) jumpers factory-installed on J3. One jumper is located on Pins 7 & 8, the other on Pins 9 & 10.
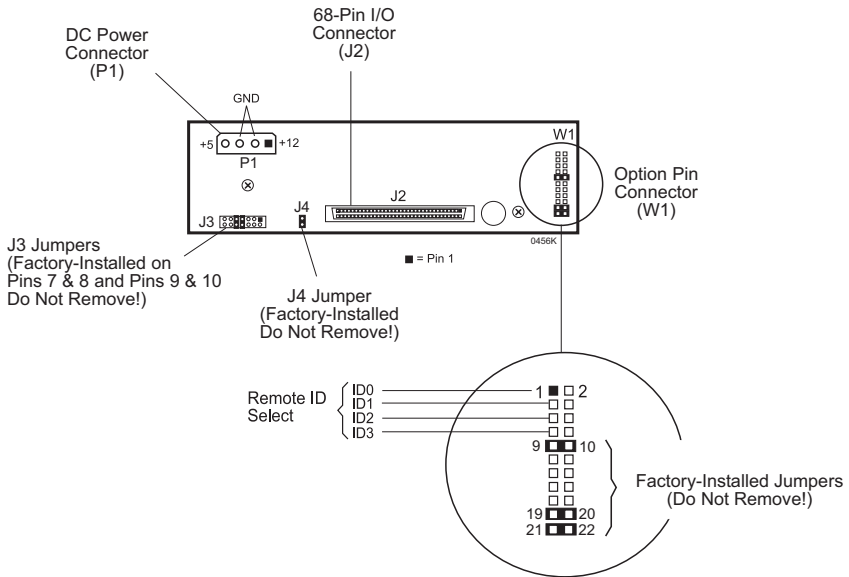
Figure 5: Receiving Frame (Rear View)

INSTALLATION

NOTE: A #2 Phillips screwdriver will be required during this procedure.

Preparation

While performing the steps in this section, work on a soft surface to prevent excessive shock to the drive being installed. Also refer to the manufacturer's documentation provided with the drive.

1.   Remove the drive from its protective packaging.

2.   **SCSI Drive Termination:** The DE200 does not provide onboard termination. External termination must be provided. Refer to the documentation provided by the drive manufacturer for termination information.

3.   **ID Select Jumpers:** Locate the ID select jumper positions on the drive, and remove any jumper plugs in this area (the drive carrier board will plug into this section of the drive).

Installation

1.   Carefully insert the drive into the carrier. Slide the drive towards the Drive Carrier Board, so that the I/O, DC power, and ID select connectors on the drive mate with their respective connectors on the drive carrier board (Figure 6).

2.   Fasten the drive into place with four (4) #6-32 Phillips Flat Hd. screws (Figure 6).
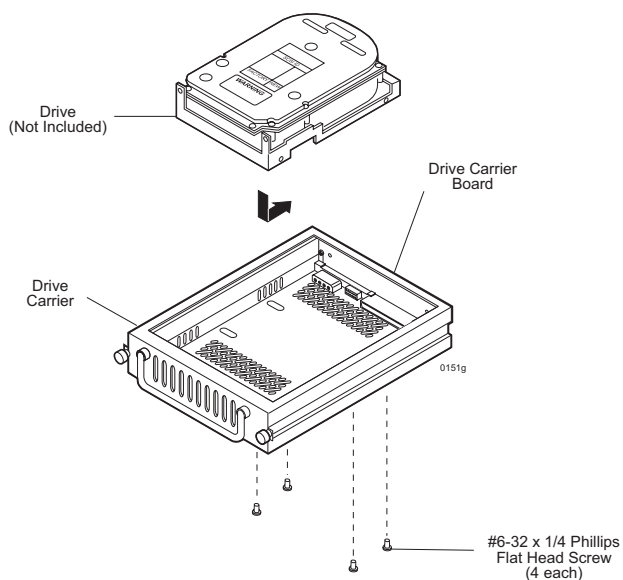
Drive
(Not Included)

Drive Carrier
Board

Drive
Carrier

0151g

#6-32 x 1/4 Phillips
Flat Head Screw
(4 each)

Figure 6:   Drive Installation Assembly

Installing the Receiving Frame

NOTES: For SCSI Ultra320 operation, the Ultra320 DE200 requires Ultra320 drives, Ultra320 HBA, and Ultra320-compliant cabling (internal and external).

Use a #2 Phillips screwdriver during this procedure.

The drive should be installed into the carrier before installing the receiving frame into the mounting bay of a computer or expansion chassis.

1. Turn OFF power to the computer.

2. Open the computer system according to the manufacturer's instructions. If necessary, temporarily remove any expansion boards that may make installation difficult.

3. To select the DE200 unit ID remotely through the computer system or external expansion chassis, the appropriate cable from the system must be connected to the Option Pin Connector (W1) on the rear of the receiving frame as shown in Table 1 and Figure 7.

Table 1: Option Pin Connector (W1) Signal Descriptions

PIN	Signal	Function
1	ID0	SCSI ID
2	GND	Ground
3	ID1	SCSI ID
4	GND	Ground
5	ID2	SCSI ID
6	GND	Ground
7	ID3	SCSI ID
8	GND	Ground
9		Reserved
10		Reserved
11	SYNC	Drive Synchronous Signal
12	GND	Ground
13	RMST	Remote Start (see Table 2)
14	GND	Ground
15	DYST	Delay Start (see Table 2)
16	GND	Ground
17		Reserved
18		Reserved
19		Reserved
20		Reserved
21		Reserved
22		Reserved

ID0	Pin 1 ☐	☐ Pin 2	
ID1	Pin 3 ☐	☐ Pin 4	
ID2	Pin 5 ☐	☐ Pin 6	
ID3	Pin 7 ☐	☐ Pin 8	
RESERVED	Pin 9 ☐	☐ Pin 10	
SYNC	Pin 11 ☐	☐ Pin 12	
RMST	Pin 13 ☐	☐ Pin 14	
DYST	Pin 15 ☐	☐ Pin 16	
RESERVED	Pin 17 ☐	☐ Pin 18	
RESERVED	Pin 19 ▮▬▮	▮ Pin 20	⎫ Factory-Installed Jumpers
RESERVED	Pin 21 ▮▬▮	▮ Pin 22	⎭ (Do Not Remove!)

0439h

Figure 7:   Receiving Frame Motherboard Option Pins (W1)

4.   With the drive carrier locked in place inside the receiving frame, install the DE200 into the 5.25" drive opening in the computer or expansion chassis. Use the appropriate guides to position the DE200 , and fasten it into place with the four (4) #6-32 Phillips screws provided. Figure 8 illustrates the location of the mounting holes. Mounting holes are provided on each side and the bottom of the receiving frame to accommodate a variety of mounting configurations. Use the mounting holes which best suit the computer or expansion chassis configuration.
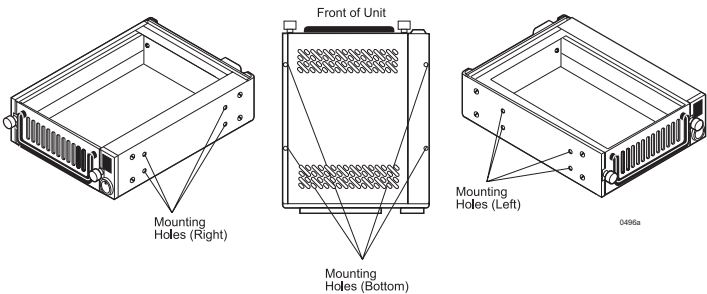
Front of Unit

Mounting
Holes (Right)

Mounting
Holes (Bottom)

Mounting
Holes (Left)

0496a

Figure 8:   Receiving Frame Mounting Holes

Table 2:   Option Pins 13-16 Drive Motor Control

DYST	RMST	Function
Open	Open	Motor spins up on "Power On"
Open	Closed	Motor spins up only if SCSI "Start" command is received
Closed	Open	Drive motor starts spinning up approximately 12 seconds x the SCSI ID number for each target drive (12 second minimum)
Closed	Closed	Reserved

Closed = Jumper installed
Open = Jumper removed

NOTE: Option Pins 13-16 (Table 2) are used to remotely access the disk drive's motor control options. Refer to the documentation provided by the drive manufacturer for further information.

5.   Adjust the front of the receiving frame so the carrier slides freely in and out on the receiving frame guides. The position of adjoining peripheral units may require adjustment.

6. To connect the drive to a Remote Activity LED in the computer system or expansion chassis, connect the appropriate cable(s) to W1 Pins 9 & 10 on the receiving frame motherboard as shown in Figure 5.

7. Connect the I/O cable from the host adapter to the receiving frame. The Pin 1 indicator on the cable must be properly aligned. Refer to Figure 5 for the correct Pin 1 location.

    NOTE: No onboard termination is provided on the DE200. External termination must be provided.

8. Connect the power cable from the DC power supply in the computer or expansion chassis to the power connector on the DE200 receiving frame. Refer to Figure 5 for the DE200 receiving frame power connector location.

9. Replace any expansion boards that may have been removed earlier. Replace the system cover according to the manufacturer's instructions.

10. Reconnect any system or peripheral cables removed earlier.

11. Turn ON power to the computer. If the installation has been successful, and all cables have been properly attached, the system should boot normally. Although the computer may not recognize the DE200 yet, the appropriate front panel LED indicators should illuminate.

    NOTE: The lock on the DE200 receiving frame functions as a lock and a DC power switch for the carrier unit. The lock must be engaged (turned counterclockwise) in order to supply power to the carrier and installed drive unit.

12. The new drive may need to be formatted or initialized prior to use with the operating system and applications software. Refer to the drive and/or com-puter manufacturer's documentation for formatting information.

Selecting the Unit ID Number

1. Verify that power is turned ON to the DE200 receiving frame by turning on the computer or external expansion chassis. A number should appear in the unit ID display window if the carrier is locked in place.

2. Unlock the DE200 drive carrier and remove it from the receiving frame. A "u" will be displayed initially when the unit is unlocked but will return to a number when the carrier is removed from the receiving frame.

WARNING: Unlocking the carrier unit switches DC power off to the drive. Since disk drives require a short amount of time to spin down, allow about 15 seconds before pulling the carrier unit out of the receiving frame to avoid possible damage to the drive.

3.   Use the alignment tool supplied with the DE200 to select the unit ID number of the disk drive. Refer to Figure 9 for the location of the Unit ID select switch inside the receiving frame.

4.   After selecting an appropriate unit ID number, replace the DE200 carrier in the receiving frame, and **LOCK IT IN PLACE**.

NOTE: The lock on the DE200 receiving frame serves two functions: 1) as a lock to secure the drive, and 2) as a DC power switch for the carrier unit. The lock must be engaged (turned counterclockwise) in order to supply power to the drive carrier.

5.   The new drive may need to be formatted or initialized prior to use with the operating system and applications software. Refer to the drive and/or computer manufacturer's documentation for formatting information.
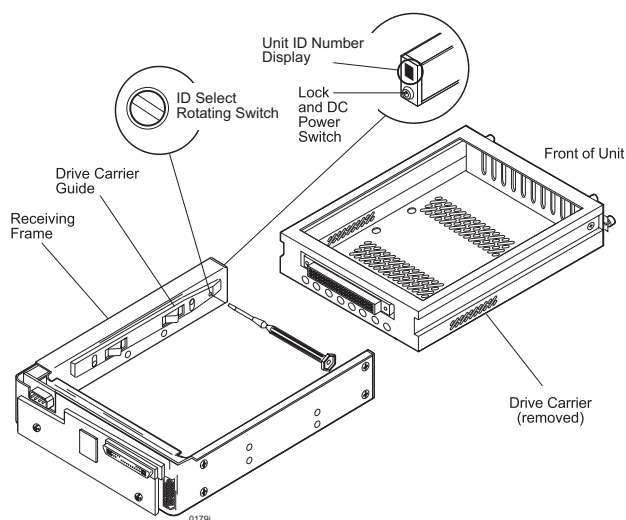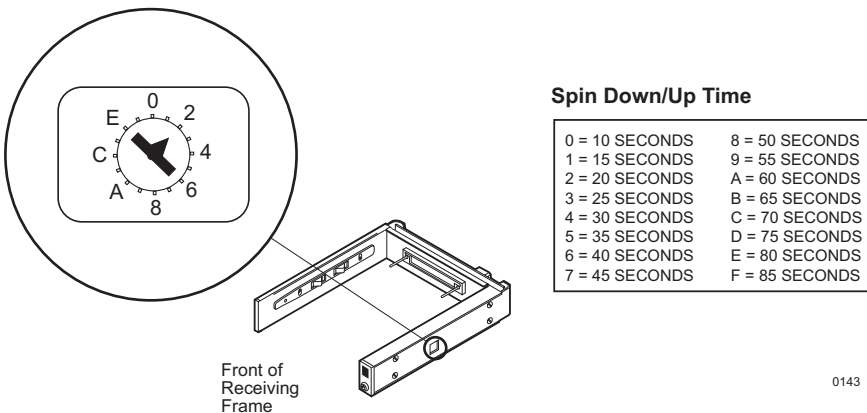

Figure 9: Unit ID Select Switch Location

Adjusting the Spin Down/Up Timer

The timer for device spin down is controlled by a small selector, located in a cutout on the side of the DE200 receiving frame as shown in Figure 10. When the key is turned to the OFF position, and when the timer receives a NO SCSI Activity signal from the Isolator Board, it waits the specified delay time before displaying a "u" on the front panel of the receiving frame. The amount of time required for a disk drive to spin down is approximately 15 seconds or more. This number can vary depending on the type of SCSI device and manufacturer (e.g. a Seagate Barracuda may require 45 seconds). The factory configuration is set for 20 seconds. A different delay time may be selected with the provided alignment tool. Refer to the SCSI device manufacturer's manual for more information on required device spin down time.

Spin Down/Up Time

0 = 10 SECONDS	8 = 50 SECONDS
1 = 15 SECONDS	9 = 55 SECONDS
2 = 20 SECONDS	A = 60 SECONDS
3 = 25 SECONDS	B = 65 SECONDS
4 = 30 SECONDS	C = 70 SECONDS
5 = 35 SECONDS	D = 75 SECONDS
6 = 40 SECONDS	E = 80 SECONDS
7 = 45 SECONDS	F = 85 SECONDS

Front of
Receiving
Frame

0143

Figure 10: Device Spin Down/Up Timer Switch

APPENDICES

Appendix A - Specifications/Dimensions

SCSI Data Express subsystems conform to the Small Computer Systems Interface (SCSI) Standard set by the American National Standards Institute (ANSI).

Environmental Specifications		
	Operating	Storage
Ambient Temperature	0° C to 50° C	-45° C to 75° C
Relative Humidity [1]	10% to 80%	10% to 90%
Altitude	-1000 to 50,000 ft -304m to 15240m	-1000 to 50,000 ft -304m to 15240m
Shock [2]	10g	60g

[1]Non-condensing with maximum gradient of 10% per hour.

[2]11 msec pulse width 1/2 sine wave.

Physical Specifications	Carrier	Receiving Frame
Height	1.68" (42.7mm)	1.70" (43.2mm)
Width	4.67" (118.6mm)	5.75" (146.1mm)
Depth	7.38" (187.5mm)	8.18" (207.8mm)
Weight	1.2lb (0.55kg)	1.3lb (0.59kg)[1]

[1])With carrier removed.

Chassis Reliability/Maintainability	
MTBF	500,000 Hours
MTTR	5 Minutes
Preventive Maintenance	None

Electrical Specifications	
Input	+5V 34mA +12V 660µA

Receiving Frame with Carrier

2.06 (52.3mm)   3.13 (79.5mm)

0.50 (12.7mm)

0.37 (9.4mm)

#6-32 x 8

Isolator Board

DE200 Board   Isolator Board

0.64 (16.3mm)

1.70 (43.2mm)

8.19 (208.0mm)

5.75 (146.1mm)   5.50 (139.7mm)

3.13 (79.5mm)   #6-32 x 4 Bottom

Carrier Only

1.68 (42.7mm)

7.38 (187.5mm)

4.67 (118.6mm)   5.14 (130.6mm)
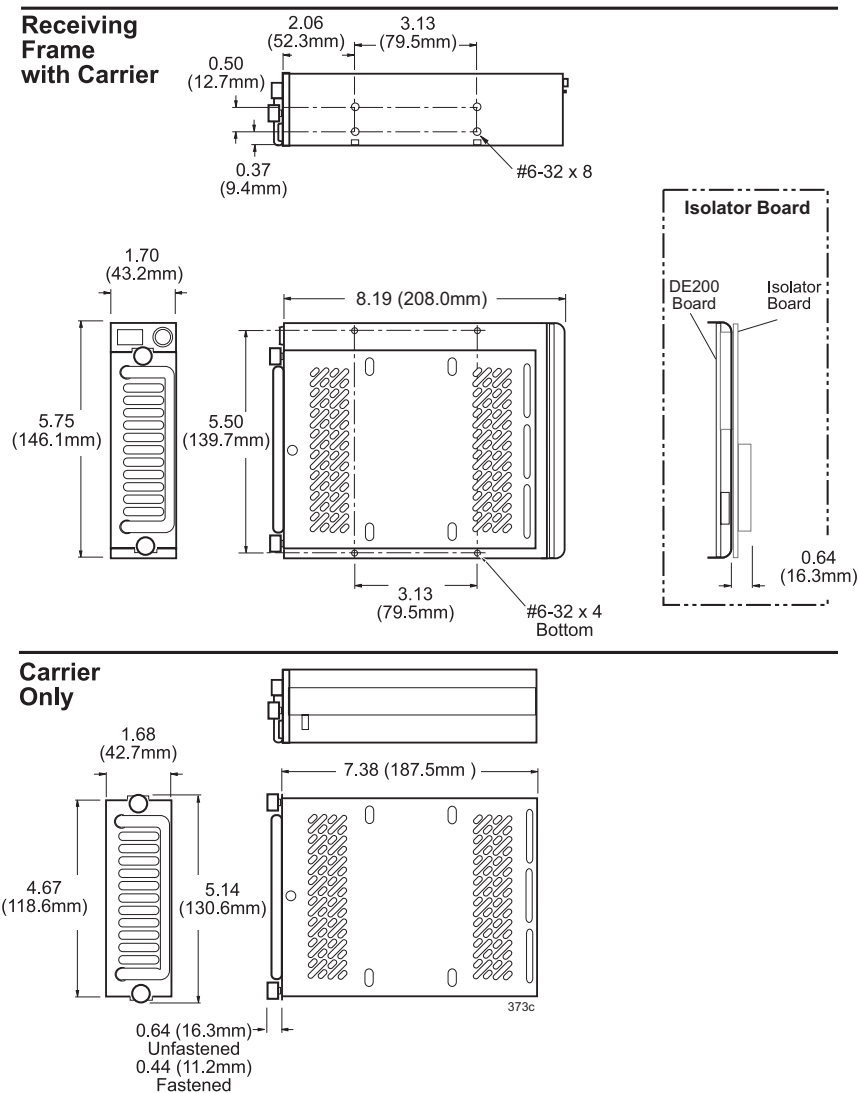
373c

0.64 (16.3mm) Unfastened
0.44 (11.2mm) Fastened

Figure A-1: Ultra320 DE200 Physical Dimensions
(Dimensions are for reference only)

Appendix B - Factory-Installed Options

Solenoid Drive Lock

The factory-installed solenoid option prevents premature removal of the carrier and drive unit until the target drive has fully spun down. For most disk drives, this period of time can range from 15-40 seconds, depending on the type of drive being used (e.g. Seagate Barracuda drives require up to 45 seconds). Refer to the drive manufacturer's documentation for specific drive information.

The solenoid lock is controlled by a timing switch located on the side of the receiving frame. Refer to section "*Adjusting the Spin Down/Up Timer*" for further information.

The solenoid option provides an extra step in drive protection by preventing the removal and movement of the drive until the drive motor has fully stopped.
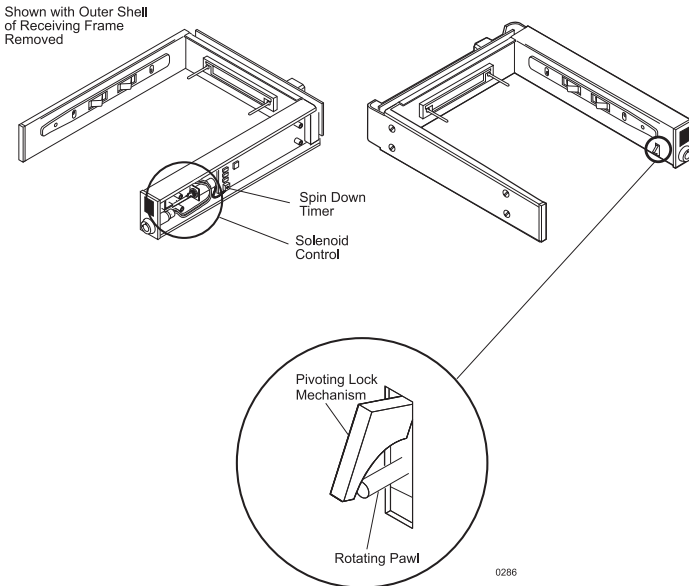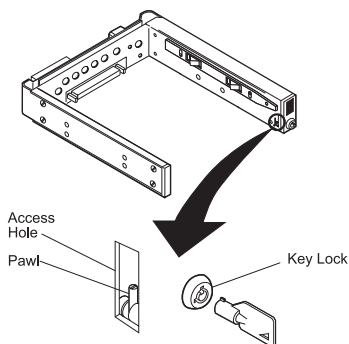

Figure B-1:   Solenoid Mechanism

Appendix C - Attaching the ON/OFF Key to Non-Solenoid Units

The following information will provide the necessary steps to attach the ON/OFF key to the key lock mechanism so that it is non-removable, preventing accidental key loss. The procedure can be reversed to revert back to a removable key, if so desired.
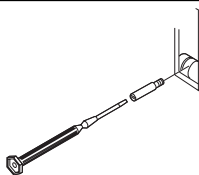
1. Make certain power is OFF to the receiving frame.

    Locate the rectangular-shaped key lock mechanism access hole on the inside of the receiving frame. Note that the pawl is in an upright position.

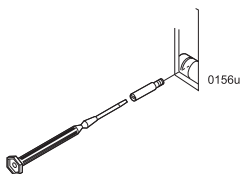   Insert the key into the key lock.

2. Rotate the key 90 degrees counterclockwise so that the pawl is visible in the access hole as shown in the figure at left.

3. Using the provided alignment tool, unscrew and remove the pawl from the access hole.

4. Rotate the key 180 degrees clockwise.

5. Reinstall the pawl into the access hole with the alignment tool.

    The key is now attached to the key lock mechanism.

Figure C-1: Attaching the ON/OFF Key

Appendix D - Optional Accessories
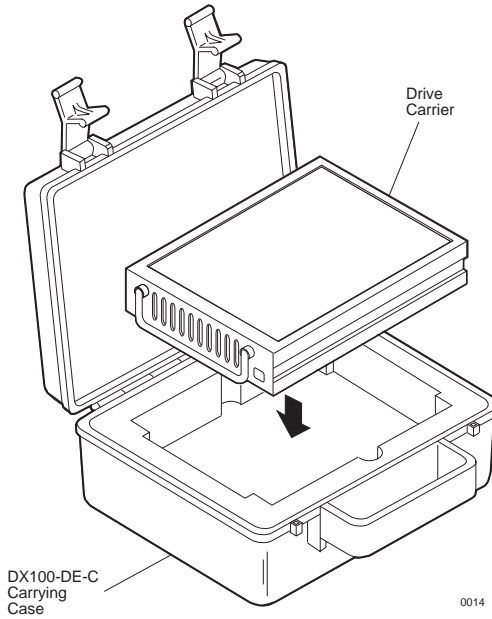
Carrying Case

Figure D-1:   Carrying Case

The optional molded plastic carrying case is designed to transport one (1) Ultra320 DE200 carrier from one site to another in a safe, impact and moisture resistant environment. Its compact dimensions, 7" long x 9" wide x 4" high, make it easy to carry and to store. The foam lining is contoured to fit a single Data Express carrier. Contact your StorCase dealer for further details and ordering information.

Drive Cover

NOTE: The full drive cover may not be compatible with all 3.5" half-height drives. Exact drive height and fit within the Ultra320 DE100 frame can vary between drive manufacturers. Please contact StorCase for technical assistance before ordering the full drive cover.
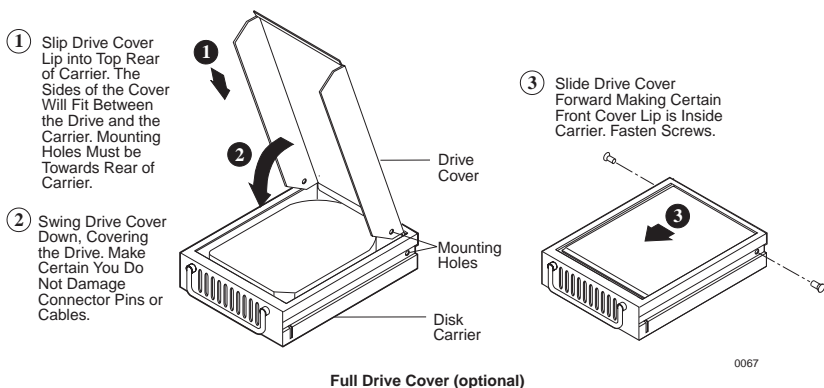
① Slip Drive Cover Lip into Top Rear of Carrier. The Sides of the Cover Will Fit Between the Drive and the Carrier. Mounting Holes Must be Towards Rear of Carrier.

② Swing Drive Cover Down, Covering the Drive. Make Certain You Do Not Damage Connector Pins or Cables.

③ Slide Drive Cover Forward Making Certain Front Cover Lip is Inside Carrier. Fasten Screws.

Drive Cover

Mounting Holes

Disk Carrier

0067

Full Drive Cover (optional)

Figure D-2: Full Drive Cover

The full drive cover (P/N DX100-COV) is an attractive metal cover which can provide additional protection for 3.5" half-height drives, preventing foreign material from coming in contact with the drive and cables. The full drive cover is similar to the cable cover provided with the Ultra320 DE200, except the full drive cover protects the drive as well as the cables. It is easily installed with two (2) #6-32 Phillips Flat Hd. screws as shown in the illustration above.
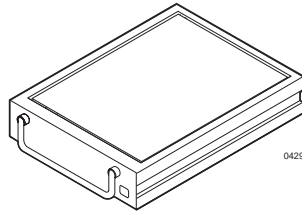
Drive Plug

Figure D-3: Drive Plug

The drive plug (P/N DX100-PLUG), is designed to fill system or external enclosure bays that are occupied by receiving frames that have no carrier units installed. The purpose of the plug is to provide an attractive and functional method of directing proper air flow to the other installed devices in the system or external enclosure.

Reader's Comments

Please take a few moments when your computer system is up and running to send us your ideas and suggestions for improving our products and documentation. Did the installation go smoothly for you? Are there any changes you would like us to make, either with the hardware itself, or with the installation instructions? Everyone at StorCase Technology is working toward the goal of providing you with the highest quality, most cost effective, products available on the market, and we need your comments to guide our efforts. We look forward to hearing from you soon!

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